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U. S. DEPARTMENT OF AGRICULTURE.

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THE HOME FRUIT GARDEN:

PREPARATION AND CARE.

BY

L. C. CORBETT,

Horticulturist, Bureau of Plant Industry.



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LETTER OF TRANSMITTAL

U. S. DEPARTMENT OF AGRICULTURE,

BUREAU OF PLANT INDUSTRY,

Washington, D. C., April 30, 1902.

SIR: I have the honor to transmit herewith and to recommend for publication as a Farmers' Bulletin the manuscript of an article on the "Home Garden: Preparation and Care," prepared by L. C. Corbett, horticulturist of this Bureau.

The article appears in the Yearbook of the Department for 1901, but it is believed to be of the popular style and of sufficient value to warrant its republication in the Farmers' Bulletin series. It has been slightly revised for this purpose, and will be found to contain much general information in regard to the laying out and care of a small fruit garden. No attempt is made to fully cover the cultivation of various fruits, a subject treated in Farmers' Bulletins already available and in others to be hereafter published.

Very respectfully,

B. T. GALLOWAY,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.

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THE HOME FRUIT GARDEN: PREPARATION AND CARE.

INTRODUCTION.

Object of a fruit garden.—A fruit garden consists of an assemblage of fruit-bearing trees and shrubs, maintained for the purpose of supplying the family with fruits. In its general purposes, then, the fruit garden is intended to accomplish results similar to those of the vegetable garden. In distinction from an orchard, the fruit garden is more restricted in area; it is intended for home rather than market purposes, and consequently comprises a much greater variety of fruits.

Considering the general desire for and appreciation of fruits by people of all classes, it is amazing that even those who have suitable situations and facilities for raising them, and who can not purchase them because of remoteness from markets, have not established home fruit gardens.

Overshadowed by orchards.—With the growth of the commercial fruit interests of the United States the home fruit garden has been lost sight of. Only a few years ago the owners of home gardens not only led in the production of fruits, but were our authorities as to how and where to grow them. To-day these gardens, while no less numerous or important, are overshadowed by the orchards where fruit is grown for commercial purposes.

RELATION OF THE HOME GARDEN TO THE FRUIT INTERESTS.

While both the home garden and the orchard are essential to the good of the community, they bear very different relations to the fruit interests of the country as a whole. The home garden is always the forerunner of commercial development, and even in those localities where climatic and soil conditions are adverse to such industries in a commercial way the home fruit garden of the enthusiastic amateur is certain to be found. All the success attained to-day by the fruit interests of the United States has grown out of the persevering efforts of a few men whose home fruit gardens served not only as testing stations for determining the fitness of given sorts for new and untried localities, but they were the propagating grounds from which sorts of the highest quality and greatest commercial value originated.

INFLUENCE OF AMATEUR FRUIT GROWERS UPON COMMUNITIES.

The testing of varieties in new localities and the development and dissemination of new sorts by the amateur is an important work, but the greatest good accomplished by him is to be found in the wholesome influence which he exerts on the community in which he lives. A community is certain to profit æsthetically as well as financially from the influence of such growers, and it is to them that we owe our appreciation for high quality. A discriminating taste developed in a neighborhood creates a demand which it pays well to gratify, and the amateur who grows fruits for quality will find a ready market in such a section.

CHANGED CONDITIONS OF FRUIT CULTURE.

Until within comparatively recent times the introduction of foreign species worthy of cultivation in this country was largely confined to horticulturists, who maintained private fruit gardens or nurseries. In fact, previous to the establishment of the State experiment stations by Congress in 1887, an important function of the work of the nurseryman was the introduction and testing of new sorts, both of foreign and domestic origin. While the commercial dissemination and popularization of fruits is at present almost exclusively in the hands of the nurseryman, the introduction of foreign species and varieties, as well as the testing of both foreign and domestic sorts, has fallen largely into the hands of the Department of Agriculture and the experiment stations. The general perspective of fruit culture in America has been greatly changed during the last twenty-five years, and many of the lines of work carried on in private fruit gardens have been absorbed wholly or in part by other forces; yet the profitable occupation of fruit growing is ever open to the amateur, to say nothing of the highly interesting work of plant breeding.

ADVANTAGES AND PLEASURES OF THE HOME FRUIT GARDEN.

The people of this country are notably a fruit-loving and fruit-eating people. Notwithstanding this, however, fruit culture has grown to be classed among the specialties, and few persons who consume fruit are actual growers. The possibilities in fruit culture upon restricted areas have been very generally overlooked, with the result that many persons who own a city lot, a suburban home, or even a farm, now look upon fruit as a luxury. This can all be changed, and much of the land which is now practically waste and entirely unremunerative can be made to produce fruits in sufficient quantity to give them a regular place upon the family bill of fare and at the same time add greatly to the attractiveness of the table and healthfulness of the diet. The home production of fruit stimulates an interest in, and a love for,

natural objects, which can only be acquired by that familiarity with them which comes through their culture. The cultivation of fruits teaches discrimination. A grower is a much more intelligent buyer than one who has not had the advantages of tasting the better dessert sorts as they come from the tree. If every purchaser was a good judge of the different kinds of fruits, the demand for fruits of high quality, which is the ambition of every amateur, as well as of every professional fruit grower, would become a reality. But until some means of teaching the differences in the quality of fruits can be devised the general public will continue to buy according to the eye rather than by the palate. The encouragement of the cultivation of fine fruits in the home garden will do much toward teaching buyers this discrimination.

Pleasant and healthful employment.—Besides increasing the fruit supply and cultivating a taste for quality, the maintenance of a fruit garden brings pleasant and healthful employment, and as one's interest in growing plants increases this employment, instead of proving a hardship, will become a great source of pleasure. The possession of a tree, which one himself has planted and reared to fruit production, carries an added interest in its product, as well as in the operation by which it was secured. The unfolding of the leaf, the exposure of the blossom buds, the development of the flowers, and the formation of the fruit are all processes which measure the skill of the cultivator, and when the crowning result of all these natural functions has been attained in a crop of perfect fruit, the man under whose care these results have been achieved will himself have been made happier and better.

To those familiar with the facilities at command for the culture of fruit and the general interest in the subject, the remarkable absence of successful fruit gardens about city, suburban, and country residences can be explained only on the ground that those who would be most likely to give attention to their care and maintenance have no object lessons or literature at hand to guide them in laying out such gardens.

THE CULTIVATION OF A HOME FRUIT GARDEN.

Fruit for the family table.—Most persons engaging in the cultivation of a home fruit garden will have as their chief aim the production of fruit for the family table and the pleasure it affords; others will go a step further and find an added source of pleasure in the problems of cross-pollination and the production of new forms. In a majority of cases, however, the aim will be the one first mentioned, and it is to assist such that the suggestions contained in this paper are offered. In order to prove a source of constant pleasure and gratification a fruit plantation must claim the attention of its owner from early

spring to late autumn; its products, too, must be so planned as to cover the greatest possible portion of the seasons between frosts. The problem presented involves a succession of fruits, from earliest to latest, as well as a combination of light-loving and shade-enduring plants. The intensive culture and the liberal feeding to be given demand that all plants be of types which bear early and heavily in proportion to their size. The question of longevity is of no moment; immediate fruit production is the object. With this view of the question, taken in connection with the great variety of conditions presented both by the extent of the country and the manner of life of those interested, it is manifestly impossible to make general statements.

A general scheme.—As the individual taste of the owner will greatly modify the character of any particular garden, a general scheme must be taken as a basis for the work, and this, of course, need not be modified for the section in which it is used, except in so far as the varying habits of the plants to be grown demand. To illustrate: The arrangement of fruit borders and walks may be the same for gardens of like dimensions all over the United States, but the varieties to be grown in these borders must be modified to suit the conditions of climate in which the garden is placed. The fruits best suited to the various sections of the United States^a can not be enumerated here, and this bulletin will be confined to a brief discussion of the methods of propagation, planting, pruning, and general culture.

SOIL.

Modification of soil.—Since one does not choose the site of his residence on account of the character of the soil of the locality, but because of other natural advantages of the place, it is obvious that the soil at the disposal of the grower will frequently be ill-suited to the purposes of a home fruit garden. For a commercial place on an extensive scale it would be out of the question to attempt to alter the character of the soil to suit the needs of the plant, but with a small area the case is quite different. If the soil is heavy it can be lightened with sand, if it is not desirable to increase the proportion of humus which it contains; if it is lacking in organic matter the addition of leaf mold and well-rotted manure or the turning under of some leguminous crop, such as cow-peas or Canada field peas, will accomplish the desired result; if the soil is loose and sandy, losing its store of plant food readily, this fault can be remedied by the addition of retentive material, such as clay; the amount of clay to be added must be governed by the degree of stiffness

^aBul. No. 8, Division of Pomology, U. S. Dept. Agr., "Catalogue of fruits recommended for cultivation in the various sections of the United States," etc., gives nineteen pomological districts, with the various classes of fruits which can be grown in each.

desired in the soil. If, on the other hand, the class of plants to be generally grown is suited to a loose, sandy soil, and it seems desirable to add to the collection a plant, such as plum, which naturally requires a heavy, retentive soil, it would undoubtedly be better to change the character of the plant by grafting it upon a stock adapted to sandy soil conditions, rather than to attempt to modify the soil to suit the plant. This change can be effected by using a peach stock for the plum. We have, therefore, two alternatives—either the soil may be modified to suit the plant or the plant may be adapted, by working it upon a suitable stock, to the soil. Such modifications in plants are not always easily accomplished, and with many plants there is no alternative but to use them on their own roots. In this latter case the soil itself must be made to conform to the demands of the plants. The soil, in addition to being heavy and retentive, may also be cold and wet. In such case the addition of sand will not entirely overcome the difficulty. Sand will lighten and facilitate natural drainage, but if the soil be unduly moist the only safe and satisfactory remedy lies in thorough underdrainage. This can be accomplished in two ways: Drains may be dug and a stone conduit built to allow the superfluous water to escape, or, what is better, agricultural tile may be laid in the bottom of the trench. If the soil is very stiff and retentive, the tiles should not be laid over $2\frac{1}{2}$ or 3 feet deep and about 1 rod apart. If the soil is porous, the drains may be placed farther apart and buried deeper. A double purpose is served by underdraining. The superfluous water which tended to make the land cold, sour, and “late” is removed, thus making the soil warmer and earlier; and by the admission of air the acidity is slowly overcome. The processes of oxidation and nitrification are also afforded better conditions for action, and while drainage adds nothing to the soil in the way of plant food, the mechanical operation of removing water and admitting air is quite as marked in its effects as a liberal dressing of manure, for the store of plant food which was withheld from the plant is allowed to become available. There is little wonder in the light of these facts that early agricultural writers propounded the axiom “tillage is manure.”

PLANTING.

Preparation of plants.—It is impossible to give explicit directions for the many plants which may be selected for planting in fruit gardens in the various sections of the United States, and general statements only can be made. At planting time all broken or decayed roots should be cut away, leaving only smooth-cut surfaces and healthy wood to come in contact with the soil. If a large part of the root area of the plant has been lost in transplanting, the top should be cut back in proportion to the roots remaining. By so doing the demand made by the top when the plant starts into growth can be met by the root.

Setting the plant.—The holes in which trees, vines, or shrubs are to be set should be ample, so that the roots of the plant may have full spread without bending them out of their natural course. The earth at the bottom of the holes should be loosened a spade depth below the line of excavation. The soil placed immediately in contact with the roots of the newly set plant should be rich top soil, free from sod or partially decayed organic matter. Firm the soil over the roots by trampling, as this brings the soil particles close together and at the same time in close contact with the surface of the roots. A movement of soil water is thus set up and the food supply of the soil brought immediately to the use of the plant. When the operation of transplanting is complete, the plant should stand 1 or 2 inches deeper than it stood in the nursery. Every precaution above enumerated will make for the success of the plant and calls for careful attention.

PRUNING.

While pruning has to be modified to suit the style of training employed with any given plant, each species of plant bears its fruit in a peculiar manner, which renders the maintenance of wood of a certain age and character necessary in order to secure a crop of fruit.

Apple and pear.—In the case of the apple and the pear the fruits are borne upon wood of last years' growth only. Heading in or shortening each shoot of the season's growth, therefore, must be done with care in order not to reduce the bearing wood beyond a profitable limit. With these two plants, however, the bearing shoots are not those making the most vigorous growth at the ends of the branches, but they are usually more obscurely located upon the sides of the branches, and make a much smaller growth, for which reason they have been termed "spurs."

Peach.—With the peach, however, it is the wood of the last season's growth upon which the fruits are directly borne, and with them heading in may be successfully employed to limit the quantity of fruit borne by the tree. Japan plums bear on both year-old wood and spurs; pruning may, therefore, be used to thin the fruit, the same as in the case of the peach.

Quince.—The quince bears its fruit at the extremity of new shoots of the present season's growth, in which respect it differs from both its close relatives, the apple and the pear; but as these shoots arise from wood of the previous season's growth, pruning must be so adjusted that the fruit crop will not be reduced.

Grape.—The grape bears its fruit on shoots of the season, which in turn usually arise from canes of the previous year's growth. Old wood on the grape is therefore of little value, hence the development of so many systems of training which maintain only a single permanent trunk, from the top of which the bearing canes are renewed

each year. The so-called "renewal," "high renewal," "Kniffen," "Munson," and various overhead systems of training all possess this feature in common. In fact, it is the only economical way in which to handle native kinds. For the fruit garden, however, where the vines are desired for covering arbors, pruning must be modified so as to secure a screen from the new growth as early in the season as practicable. For this purpose a modification of the "horizontal-arm" system of training will be found most advantageous. By planting the vines closely and carrying up single trunks to a fixed height, and from the top of the stalk carrying out horizontal arms along which "spurs" are maintained, a short growth from each spur will be sufficient to give a uniform and sufficiently dense canopy of leaves for the arbor.

Raspberries and blackberries.—Raspberries and blackberries both bear their fruits on short shoots which arise from canes of the previous season's growth. While these shoots are usually axillary shoots, the fruits are always terminal. In the case of the grape, which bears its fruit upon annual shoots arising from canes of the previous year, the fruit is produced at a node, and takes the place of a leaf; several fruit clusters may therefore arise from a single shoot of the grape.

Currant and gooseberry.—In the case of the currant and gooseberry the fruits are produced on both old and new wood; the fruits appear as axillary growths from the shoot itself, and wood 3 years or more of age is unprofitable and should be cut away.

Strawberries.—Strawberries are rarely produced in profitable quantities by plants more than 1 year old. Plants over 2 years of age should be rooted out to give room for new ones.

Orange.—The orange bears its fruit in much the same way as does the peach. New growth must therefore be maintained to insure a supply of fruit. But as the orange is evergreen, pruning can not be confined to a single season, as in the case of deciduous trees possessing a regular and marked period of rest.

PROTECTION.

Temporary sheds.—The interest of a fruit garden may be greatly enhanced by growing therein plants not adapted naturally to the climatic region in which the garden is located, as, for instance, the growing of figs as far north as the latitude of Philadelphia. The summers of the region are sufficiently long and warm to induce a strong growth in the fig, but as the fruits normally require a long period in which to mature, the plant becomes useless as a fruit producer unless sufficient protection is afforded to carry over winter the immature fruits set the previous fall. This can be successfully accomplished in several ways. The most hardy sort should be selected, in addition to which the fruiting shoots may be wrapped in matting, covered with straw, and the fruits thus successfully protected; or, if it seems desirable,

temporary sheds may be built over the plants, and these thatched with straw or fodder sufficiently to protect them from frost. Then, again, semihardy sorts may be tipped over by cutting the roots on one side, bending the branches close to the soil, pinning them down, and then covering the whole plant with matting and earth or a straw thatch and earth. At the extreme northern limit of fig culture it has been found that the covering of earth is preferable to any other method, while at the South, where only slight protection is necessary, bending down and covering with pine boughs or thatching with cornstalks has proven most successful.

By the use of one or the other of these methods of protecting plants the peach has been grown and successfully fruited in the southern central part of South Dakota, along the Missouri River.

Sheltered places.—Besides these protective devices, sheltered places, where growth is retarded in spring, may be taken advantage of in order to hold back such early blooming plants as apricots, Japanese plums, etc. Apricots planted and trained on the north wall of a building are frequently sufficiently retarded at blooming time to insure a crop, while if planted in the open and trained as a standard the fruit crop will be killed by late spring frosts.

For commercial purposes the use of most of these protective measures is precluded on account of expense. The commercial grower can not indulge in such expensive devices unless he has the assurance of obtaining a fancy price for his product. In a home fruit garden, however, it is different. The expense of protecting a half dozen plants is trifling, and many amateurs will incur it for the sake of the novelty of having secured fruits naturally adapted to other climatic regions.

METHODS OF ADAPTING PLANTS TO CONDITIONS.

DWARFING AND GRAFTING.

In order to secure satisfactory results from a limited area devoted to fruit culture, one must know the form of plant and method of pruning, training, and culture best suited to the space at command.

The fact that trees can be grown as *dwarfs* as well as *standards* will enable one to utilize a space which had previously been considered unsuited for the development of a tree. The cultivator's art has developed many devices which may be used to make plants conform to the conditions in a fruit garden.

Value of dwarf trees.—The modifications which plants undergo are sufficient to convince one of the great possibilities which await those who choose to make use of the methods to secure a large return from a limited area. It is well known that, in proportion to size, dwarf trees are more fruitful than standards; that they come into bearing sooner, and are therefore of special value for use in limited inclosures or fruit gardens.

Dwarfing is accomplished by budding or grafting robust growers on slow-growing stocks, and most tree fruits lend themselves to this treatment. While the dwarf pear is undoubtedly the most familiar example of a dwarf tree in the United States, there are stocks upon which apples, cherries, plums, and peaches can be grown with the same general result. Besides this mode of modification, there are other methods quite as important to the owners of small areas. Standards may be grown as "bushes" or as "pyramids," thus making it possible to grow them much closer together. Pruning and training, used in

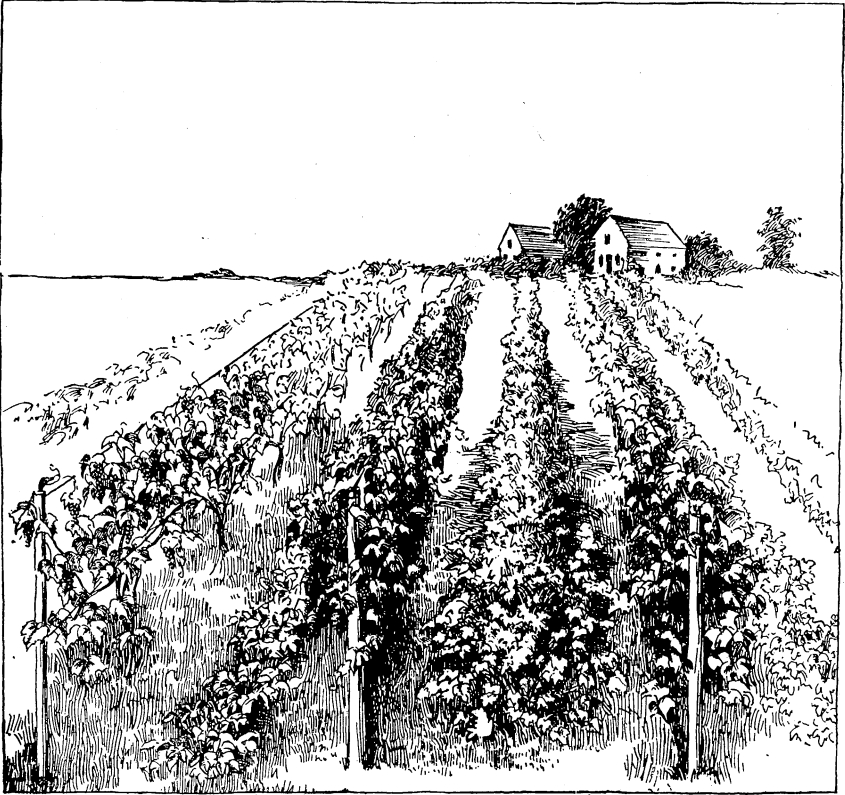


FIG. 1.—Combination of strawberries and currants with grapes.

combination, have shown the possibilities of restricting plants to the "espalier," "cordon," and other styles of training employed in growing fruits against walls. These methods not only allow plants to be grown more closely than is common in orchard practice, but they allow the grower to take advantage of locations and conditions under which trees could not develop normally. The side of a building may be utilized as a support to an apricot, nectarine, pear, or grape, the last named being the only one normally adapted to such a position.

Varieties increased by grafting.—Besides the advantage of dwarfing, grafting may be turned to good account to enable the owner of few trees

to increase his sorts beyond the limits of the trees he possesses. By grafting, the list of varieties can be increased at will. There are single trees known which bear as many as 150 varieties of apples. While a tree of this kind possesses little commercial value, it is of interest in the way of proving what can be accomplished by grafting.

COMBINING PLANTS OF VARIOUS HABITS OF GROWTH.

Some combinations.—In addition to the advantages to be gained from restricting the growth of plants by training and dwarfing, some of the methods of training offer adaptations which allow of combining plants of various habits of growth, to the advantage of the grower and with little or no disadvantage to the plants. To illustrate this, currants may be combined with the grape, as shown at the right in fig. 1; the



FIG. 2.—Raspberries between apple trees.

apples with currants or raspberries, as in fig. 2; grapes and strawberries, as shown at the left in fig. 1.

The advantages of these methods become apparent at once when the object is the most economical utilization of a limited land area.

Besides the special adaptations afforded by dwarfed trees and by special combinations of low-growing and high-growing plants, certain well-known systems of pruning and training allow additional liberties to the skillful planter, as, for instance, the grapevine, which readily lends itself to arbor training, may be utilized for screening tender or shade-loving plants. The style of training the grape shown in fig. 3 is more desirable in many cases than a more perfect arbor. Strawberries adapt themselves readily to such situations if the shade is not allowed to become too dense. Among flowering plants none will thrive better under such conditions than pansies and violets, and among

garden vegetables lettuce and radishes may be successfully grown under such a canopy, as they will be out of the way before a dense shade is formed by the grapes. Asparagus can be successfully grown under a shade of this character, as it will, because of its early habit, make a large share of its growth before the tardy grape will have produced a shade dense enough to interfere with the young, tender shoots.

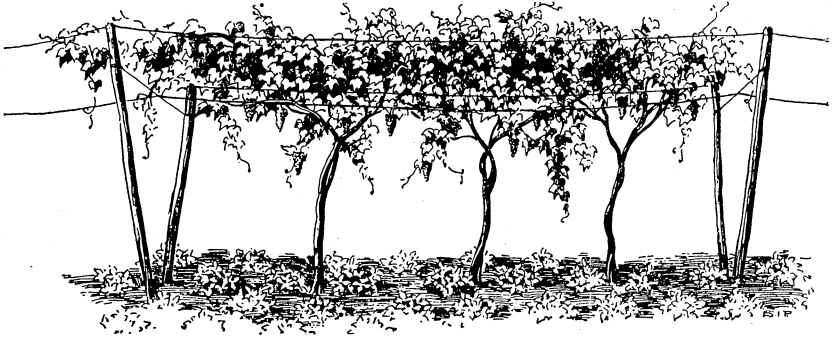


FIG. 3.—Strawberries under grapevines.

Vines as a cover for walks and for shade.—The vine may be utilized as a cover for walks and drives or as a canopy over small outbuildings. A cozy summer veranda may be covered by grapevines, thus securing the double advantage of a cool, shady nook during summer and a supply of fruit in autumn. Fig. 4 shows a back porch shaded in this way. In one garden a small ash house was made to support an Isa-

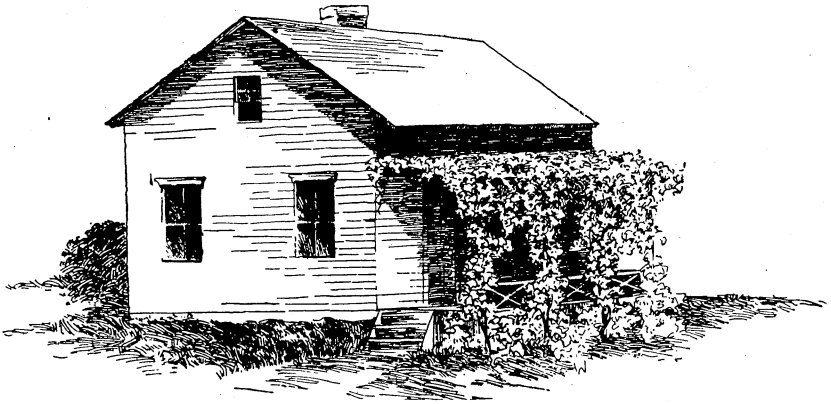


FIG. 4.—A vine-clad porch.

bella vine, and this vine in 1891 produced 300 clusters of grapes. The small inclosure in which this vine grew, only 25 feet wide and 80 feet deep, also supplied foot room for 15 other grapevines, several dozen strawberry plants, a row of currants, and a limited supply of vegetables and annual flowers, besides a few square yards of beautiful turf. The plan of this garden (fig. 5) shows the arrangement of the

plants. The grapevines are trained to the high, tight board fence which separates the lot from that of the next neighbor. The currants are planted near one side of the inclosure, while the main walk occupies a corresponding position on the opposite side. The area between the walk and fence on one side is given up to strawberries, while that between the walk and currant bushes on the opposite side forms the flower and vegetable plat.

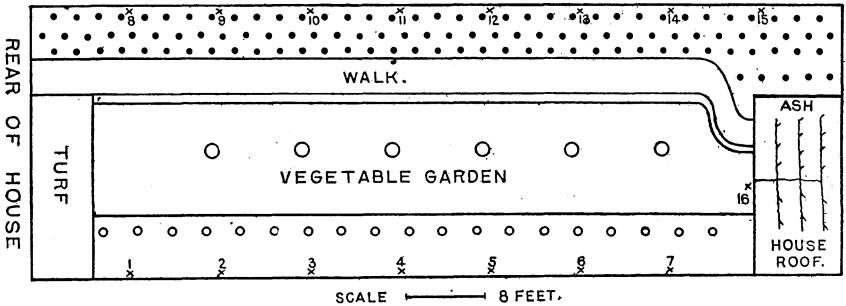


FIG. 5.—Plan of a back yard 25 by 80 feet in extent; x, grapes; •, strawberries; o, currants; O, dwarf peas.

COMBINED FRUIT AND VEGETABLE GARDEN.

Where there is more land at one's disposal there may be both a fruit garden and a vegetable garden. An area of 60 by 80 feet set apart as a fruit garden will accommodate 442 fruit-bearing plants of the kinds designated below, while an area of 40 by 80 feet will be sufficient for quite a variety of vegetable plants. On these areas, planned as shown in fig. 6, fruit and vegetable plants may be grown as follows:

FRUIT-BEARING PLANTS THAT CAN BE GROWN ON AN AREA OF 60 BY 80 FEET.

Thirty-two grapevines, dispersed at intervals of 10 feet around the entire garden. Three rows, each containing 6 trees dwarf peas, 18 specimens in all (rows Nos. 2, 10, 14).

One row, 6 specimens peaches (row No. 4):

One row, 6 specimens cherries (row No. 8).

One row, 6 specimens dwarf apples (row No. 6).

One row, 6 specimens plums (row No. 12).

One row, 20 specimens blackberries (row No. 1).

Two rows, 40 specimens blackcaps (rows Nos. 3 and 5).

Two rows, 40 specimens red raspberries (rows Nos. 7 and 9).

Three rows, 300 specimens strawberries (rows Nos. 11, 13, and 15).

VEGETABLE PLANTS THAT CAN BE GROWN ON AN AREA OF 40 BY 80 FEET.

One row, $\frac{1}{2}$ row rhubarb, $\frac{1}{2}$ row asparagus (occupying 4 feet).

One row, salsify ($1\frac{1}{2}$ feet).

One row, parsnips ($1\frac{1}{2}$ feet).

Two rows, beets (3 feet).

One row, eggplant—plants set 18 inches apart—2 dozen (3 feet).

Two rows, tomatoes—plants set 2 feet apart—2 dozen (6 feet).

One row, summer squash, 12 hills, 3 feet apart (3 feet).

Two rows, cucumber, 24 hills, 3 feet apart (1 foot).

Two rows, early cabbage, 4 dozen plants, set 18 inches apart (4 feet).

Two rows, late cabbage, 4 dozen plants, set 18 inches apart (4 feet).

One row, early celery, 6 dozen plants, set 6 inches apart (2 feet).

Eight rows, peas, plant in double rows, 4 inches apart; follow by 6 rows late celery, 36 dozen plants (16 feet).

Two rows, lima beans, 4 dozen hills, 18 inches apart (4 feet).

Six rows, bunch beans; in succession sow seeds in drills, placing seeds about 6 inches apart in the row; follow by late cabbage, turnips, or spinach (12 feet).

Two rows, radishes, 4 sowings, planted in double rows 6 inches apart (3 feet).

Two rows, lettuce, two sorts, adapted for early and late use (3 feet).

One row, parsley and peppergrass (1½ feet).

The space occupied by the last three plants may be given over to winter squashes by planting these before other crops are off the ground.

As before mentioned, the general plan will serve as a guide to planting in any portion of the United States, but the sorts chosen must be suited to that particular section of the country in which the work is to be executed.

As will be seen by fig. 6, this garden is planned to utilize the space to the best possible advantage. In order to secure large returns, the soil must be kept cultivated and well enriched; walks, if any are to be maintained as permanent features, should only exist where necessary for ease and comfort in getting about. A permanent walk should divide the fruit garden from the vegetable garden. This is best made of gravel or some other loose material, which will preserve a dry passageway without preventing the rain from penetrating the soil beneath it, as the fruit trees which stand beside it will need the moisture which it gathers. On account of the small area occupied and the close planting necessary to secure the result desired, the culture of such a garden must of

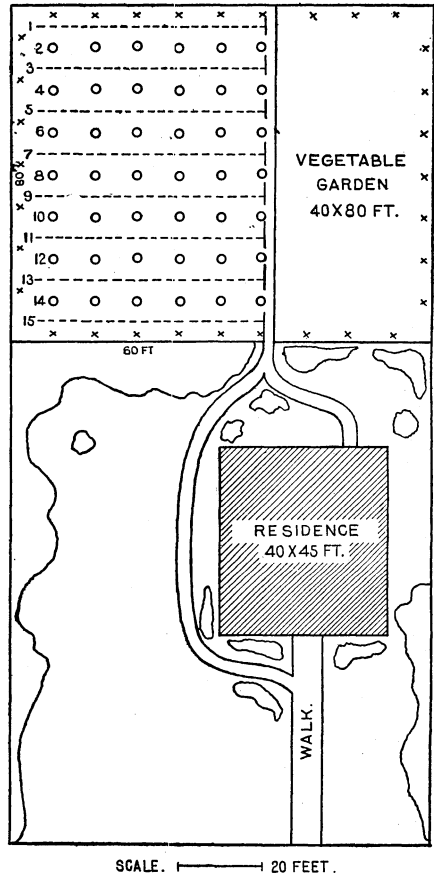


FIG. 6.—Plan for a suburban place.

necessity be done by hand. If the grapevines are trained on the high renewal system, they will serve both as a screen for the rest of the garden and as a source of fruit supply. A good wire fence should, however, be constructed on the line between adjoining properties, and the grape border planted not farther than 2 feet from the boundary fence.

ALLOTMENT OF FRUITS FOR GARDENS OF DIFFERENT SIZES.

The following lists of varieties, while made for northern Ohio, are presented more as a guide to the proportionate allotment of plants of various species in a home fruit garden than as a guide to varieties suited to such a garden. As has already been pointed out, the selection of sorts for a fruit garden is a local as well as personal matter. Varieties give their best products only in certain more or less restricted areas, so the list of fruits in one section will naturally differ widely from those in another. Then, too, the personal likes of the planter will modify the list in each garden, even though the conditions be such as to admit of a duplicate set in each.

VARIETIES OF FRUITS FOR HOME GARDENS OF DIFFERENT AREAS.

FRUIT GARDEN NO. 1 (ABOUT 2 ACRES).

APPLES (22 TREES).—*Summer*: Two Early Harvest, 2 Red Astrachan, 1 Golden Sweet, 1 Pumpkin Sweet, 1 Maiden Blush. *Winter*: Two Grimes Golden, 2 Baldwin, 2 Rhode Island Greening, 2 Belmont (White Pippin), 1 Fallawater, 1 Fameuse (Snow Apple), 1 Talman Sweet, 1 Roxbury Russet. *Crabb*: One Hyslop, 1 Transcendent, 1 Yellow Siberian.

PEACHES (25 TREES).—*Early*: Four Yellow Rareripe, 4 Early Crawford, 4 Elberta, 2 Alexander, 2 Canada Early, 1 Lewis. *Late*: Four Late Crawford, 2 Stephens Rareripe, 2 Golden Drop.

PEARS (10 TREES).—Four Bartlett, 2 Koonce, 2 Duchess, 1 Kieffer, 1 Seckel.

CHERRIES (10 TREES).—Four Allen, 2 Black Tartarian, 4 Early Richmond.

PLUMS (10 TREES).—Two Green Gage, 2 French Damson, 2 Lombard, 2 Mary, 2 Willard.

QUINCES.—Fifteen Champion.

APRICOTS.—Five Montezumet.

NECTARINES.—Five Boston.

GRAPES (100 VINES).—Twenty-five Concord, 25 Campbell's Early, 25 Niagara, 25 Brighton.

RASPBERRIES (150 BUSHES).—Fifty Gregg, 25 Marlboro, 50 Cuthbert, 25 Golden Queen.

BLACKBERRIES (100 BUSHES).—Fifty Agawam, 50 Taylor.

CURRANTS (100 BUSHES).—Fifty Victoria, 25 White Grape, 25 Black Champion.

GOOSEBERRIES (75 BUSHES).—Twenty-five Downing, 25 Industry, 25 Columbus.

STRAWBERRIES (400 PLANTS).—One hundred Brandywine, 100 Glen Mary, 100 Warfield, 100 Gandy.

FRUIT GARDEN NO. 2 (FOR MEDIUM-SIZE PLACE).

APPLES (10 TREES).—Two Baldwin, 2 Grimes Golden, 1 Fallawater, 2 Red Astrachan, 1 Bough Sweet. *Crab*: One Transcendent.

PEACHES (10 TREES).—One Alexander, 2 Rareripe (Yellow), 2 Early Crawford, 4 Late Crawford, 1 Stephens Rareripe.

CHERRIES (5 TREES).—Two Early Richmond, 2 Black Tartarian, 1 Allen.

PLUMS (5 TREES).—Two Green Gage, 2 Lombard, 1 Willard.

PEARS (5 TREES).—Two Bartlett, 1 Duchess, 1 Kieffer, 1 Seckel.

QUINCES.—Five Champion.

APRICOTS.—Two Montezumet.

NECTARINES.—Two Boston.

GRAPES (50 VINES).—Twenty-five Concord, 10 Niagara, 15 Brighton.

RASPBERRIES (70 BUSHES).—Twenty-five Gregg, 10 Marlboro, 25 Cuthbert, 10 Golden Queen.

BLACKBERRIES (50 BUSHES).—Twenty-five Agawam, 25 Taylor.

CURRANTS (45 BUSHES).—Twenty-five Wilder, 10 White Grape, 10 Black Champion.

GOOSEBERRIES (30 BUSHES).—Ten Downing, 10 Industry, 10 Columbus.

STRAWBERRIES (200 PLANTS).—One hundred Brandywine, 100 Gandy.

FRUIT GARDEN NO. 3 (FOR CITY LOT).

APPLES (4 TREES).—One Red Astrachan, 1 Golden Sweet, 1 Baldwin, 1 Fallawater.

PEACHES (4 TREES).—One Early Canada, 1 Yellow Rareripe, 1 Early Crawford, 1 Late Crawford.

PEARS (2 TREES).—One Bartlett, 1 Duchess (Dwarf).

PLUMS (2 TREES).—One Wilder, 1 Lombard.

QUINCES.—Two Champion.

APRICOTS.—One Montezumet.

GRAPES (10 VINES).—Five Concord, 5 Niagara.

RASPBERRIES (20 BUSHES).—Ten Gregg, 10 Cuthbert.

BLACKBERRIES (20 BUSHES).—Ten Taylor, 10 Agawam.

CURRANTS (10 BUSHES).—Five Victoria, 5 White Grape.

GOOSEBERRIES.—Five Downing.

STRAWBERRIES.—Fifty Brandywine.

FARMERS' BULLETINS.

The following is a list of the Farmers' Bulletins available for distribution, showing the number, title, and size in pages of each. Copies will be sent to any address on application to Senators, Representatives, and Delegates in Congress, or to the Secretary of Agriculture, Washington, D. C. The missing numbers have been discontinued, being superseded by later bulletins.

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